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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/664,857

09/22/2003

Kenji Umayahara

116675

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ALEXANDRIA, VA 22320-4850

EXAMINER

WILLS, MONIQUE M

ART UNIT

PAPER NUMBER

1795

MAIL DATE

DELIVERY MODE

03/21/2008

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/664,857	Applicant(s) UMAYAHARA ET AL.	
	Examiner Monique M. Wills	Art Unit 1795	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 21 November 2007.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-12 and 24 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-12 and 24 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 22 September 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

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DETAILED ACTION

This Office Action is responsive to the Amendment filed November 21, 2007. The rejection of claims 1-7 under 35 U.S.C. 103(a) as being unpatentable over Itou U.S. Pub. 2003/0150655 in view of Clingerman et al. U.S. Pub. 2005/0031922 is overcome. The rejection of claims 8-12 under 35 U.S.C. 103(a) as being unpatentable over Itou U.S. Pub. 2003/0150655 in view of Clingerman et al. U.S. Pub. 2005/0031922 in view of Breed U.S. Pub. 2006/0212194 is overcome. However, claims 1-12 and 24 are newly rejected under 35 U.S.C. 112 second paragraph. The rejections are as follows:

Claim Rejections – 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 1-12 & 24 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

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The term “ switching over operation/stopped states of the fuel cell system” is of uncertain meaning rendering the claims vague and indefinite. This step implies that the switching state is in the operation or stopped positions. However, the following "detecting" and "communicating steps" appear to require that the switch must be in its “ stopped" state.

Claim Rejections – 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1–7 are rejected under 35 U.S.C. 103(a) as being unpatentable over Itou U.S. Pub. 2003/0150655 in view of Clingerman et al. U.S. Pub. 2005/0031922.

With respect to **claim 1**, Itou teaches an alert method relating to a remaining fuel amount of a fuel cell system, comprising the steps of: detecting that the state of the fuel cell system is switched over to a stopped side (par. 34); and communicating information related to the remaining fuel amount to a user when fuel of the fuel cell system is consumed in a state where the switch is

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switched over to a stopped side (par. 33-35). With respect to **claim 2**, wherein at least a step of generating an alert for the user when fuel of the fuel cell system is consumed and the remaining fuel amount falls to an alert generating level is included in the step of communicating information related to the remaining fuel amount (par. 35). With respect to **claim 4**, the alert is sent to an information terminal of the user using wireless communication (par. 22). With respect to **claim 5**, the generation of the alert is implemented multiple times in response to the remaining fuel amount (par. 23 & 24). With respect to **claim 6**, the alert includes information related to a remaining fuel amount (par. 33). With respect to **claim 7**, the alert generating level is set such that the possible remaining running mileage of the moving body includes a margin with respect to the distance to the nearest fuel station (par. 31).

Itou does not expressly disclose switching over operation/stopped states of the fuel cell system (**claim 1**) or implementing the alert when fuel is consumed due to the fuel cell system performing a heat-retention operation (**claim 3**).

Clingerman teaches that it is conventional to employ startup/shutdown switches to control the power output of fuel cells (See the Abstract).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the instant invention was made to employ the shutdown switches of

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Clingerman, in the alert method of Itou, in order to control the power output of the fuel cell.

With respect to **claim 3**, it would be reasonable to expect that the alert is implemented when fuel is consumed due to the fuel cell system performing a heat-retention operation, because the system is monitored immediately after shut down. During this time the fuel cell continues to retain heat.

Claim Rejections – 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

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Claims 8–12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Itou U.S. Pub. 2003/0150655 in view of Clingerman et al. U.S. Pub. 2005/0031922 in view of Breed U.S. Pub. 2006/0212194.

Itou in view of Clingerman teach an alert system as described in the rejection recited hereinabove. With respect to **claim 9**, the communication is conducted at every fixed time period (par. 23). With respect to **claim 10**, the communication is conducted when the remaining fuel amount falls to an alert generating level (par. 33–35).

Itou does not expressly disclose communicating information related to the remaining fuel amount to an information terminal of a user at a location away from the moving body using wireless communication (**claim 8**). The reference does not is expressly disclose the communication conducted in response to a request from the user (**claim 11**), or the fuel cell system stopping consumption of the fuel in response to a system stop command from the user (**claims 12 & 13**).

Breed teaches that it is conventional to communicate information related to a fuel level using the Internet (par. 40 & 246).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the instant invention was made to employ the wireless Internet communication system of Breed, in the alert method of Itou in view of

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Clingerman, in order to facilitate remote monitoring of vehicle conditions (**claim 8 & 11**).

With respect to **claim 12**, it would be reasonable to expect the fuel cell to stop consuming fuel in response to a stop command from the user.

Conclusion

Applicant' s arguments, see page2, filed November 21, 2007 have been fully considered and are persuasive. Therefore, the rejection of claims 1-7 under 35 U.S.C. 103(a) as being unpatentable over Itou U.S. Pub. 2003/0150655 in view of Clingerman et al. U.S. Pub. 2005/0031922 is overcome. The rejection of claims 8-12 under 35 U.S.C. 103(a) as being unpatentable over Itou U.S. Pub. 2003/0150655 in view of Clingerman et al. U.S. Pub. 2005/0031922 in view of Breed U.S. Pub. 2006/0212194 is overcome.

Conclusion

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply

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is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the Examiner should be directed to Monique Wills whose telephone number is (571) 272-1309. The Examiner can normally be reached on Monday-Friday from 8:30am to 5:00 pm.

If attempts to reach Examiner by telephone are unsuccessful, the Examiner's supervisor, Patrick Ryan, may be reached at 571-272-1292. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information


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for published applications may be obtained from either Private PAIR or Public PAIR.

Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

/Monique M Wills/
Examiner, Art Unit 1795
2/12/08

/PATRICK RYAN/
Supervisory Patent Examiner, Art Unit 1795

<div>Application Number</div> <div></div>	Application/Control No.	Applicant(s)/Patent under Reexamination	
	10/664,857	UMAYAHARA ET AL.	
	Examiner	Art Unit	
	Monique M. Wills	1795	